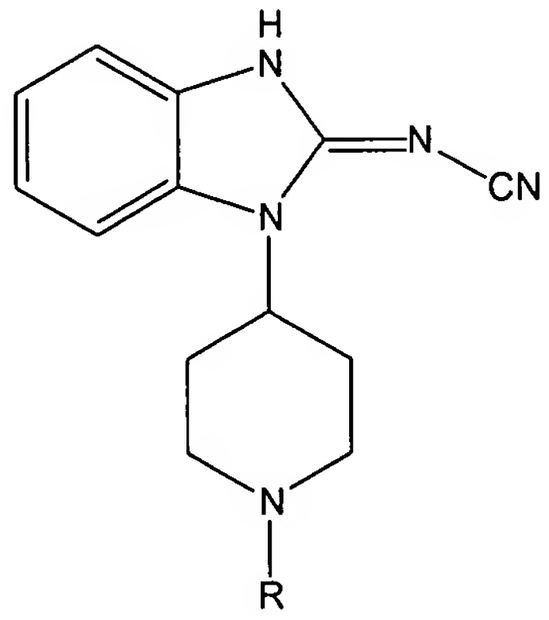
I. Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

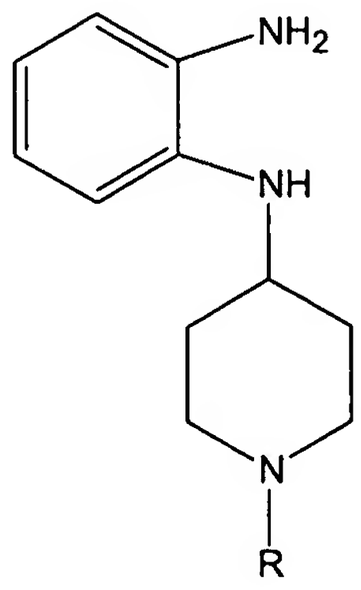
Listing of Claims

Claim 1. (Original): A process for synthesizing a compound of formula (V):



(V)

comprising reacting a compound of formula (IV):



(IV)

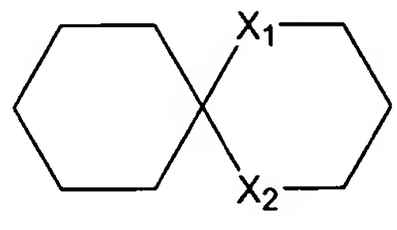
with (A)(A_1)-cyanocarbonimidate to form a compound of formula (V);

wherein A and A_1 are independently selected from methyl, ethyl propyl, phenyl and benzyl; and wherein,

R is Z-R1, wherein

Z is selected from the group consisting of a bond, straight or branched C_{1-6} alkylene, -NH-, $-CH_2O-$, $-CH_2NH-$, $-CH_2N(CH_3)-$, $-NHCH_2-$, $-CH_2CONH-$, $-NHCH_2CO-$, $-CH_2CO-$, $-COCH_2-$, $-CH_2COCH_2-$, $-CH(CH_3)-$, -CH=, -O- and -HC=CH-, wherein the carbon and/or nitrogen atoms are unsubstituted or substituted with one or more lower alkyl, hydroxy, halo or alkoxy group;

R_1 is selected from the group consisting of hydrogen, C_{1-10} alkyl, C_{3-12}cycloalkyl, C_{2-10}alkenyl, amino, C_{1-10}alkylamino-, C_{3-12}cycloalkylamino-, $-COOV_1$, $-C_{1-4}COOV_1$, cyano, cyanoC_{1-10}alkyl-, cyanoC_{3-10}cycloalkyl-, NH_2SO_2-, $NH_2SO_2C_{1-4}$alkyl-, NH_2SOC_{1-4}alkyl-, aminocarbonyl-, C_{1-4}alkylaminocarbonyl-, diC_{1-4}alkylaminocarbonyl-, benzyl, C_{3-12} cycloalkenyl-, a monocyclic, bicyclic or tricyclic aryl or heteroaryl ring, a hetero-monocyclic ring, a hetero-bicyclic ring system, and a spiro ring system of the formula (XI):



(XI)

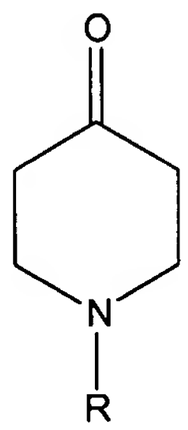
wherein X_1 and X_2 are independently selected from the group consisting of NH, O, S and CH_2; and wherein said alkyl, cycloalkyl, alkenyl, C_{1-10}alkylamino-, C_{3-12}cycloalkylamino-, or benzyl of R_1 is optionally substituted with 1-3 substituents selected from the group consisting of halogen, hydroxy, C_{1-10} alkyl, C_{1-10} alkoxy, nitro, trifluoromethyl-, cyano, $-COOV_1$, $-C_{1-4}COOV_1$, cyanoC_{1-10}alkyl-, $-C_{1-5}(=O)W_1$, $-C_{1-5}NHS(=O)_2W_1$, $-C_{1-5}NHS(=O)W_1$, a 5-membered heteroaromaticC_{0-4}alkyl-, phenyl, benzyl, benzyloxy, said phenyl, benzyl, and benzyloxy optionally being substituted with 1-3 substituents selected from the group consisting of halogen, C_{1-10} alkyl-, C_{1-10} alkoxy-, and cyano; and wherein said C_{3-12} cycloalkyl, C_{3-12} cycloalkenyl, monocyclic, bicyclic or

tricyclic aryl, heteroaryl ring, hetero-monocyclic ring, hetero-bicyclic ring system, or spiro ring system of the formula (XI) is optionally substituted with 1-3 substituents selected from the group consisting of halogen, C_{1-10} alkyl, C_{1-10} alkoxy, nitro, trifluoromethyl-, phenyl, benzyl, phenyloxy and benzyloxy, wherein said phenyl, benzyl, phenyloxy or benzyloxy is optionally substituted with 1-3 substituents selected from the group consisting of halogen, C_{1-10} alkyl, C_{1-10} alkoxy, and cyano;

wherein V_1 is independently selected from H, C_{1-6} alkyl, C_{3-6} cycloalkyl, benzyl and phenyl; and

wherein W_1 is hydrogen, C_{1-10} alkyl, C_{3-12} cycloalkyl, C_{1-10} alkoxy, C_{3-12} cycloalkoxy, $-CH_2OH$, amino, C_{1-4}alkylamino-, or diC_{1-4}alkylamino-.

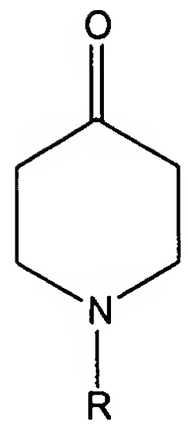
Claim 2. (Original): The process of claim 1, wherein the compound of formula (IV) is formed by subjecting a compound of formula (III):



(III)

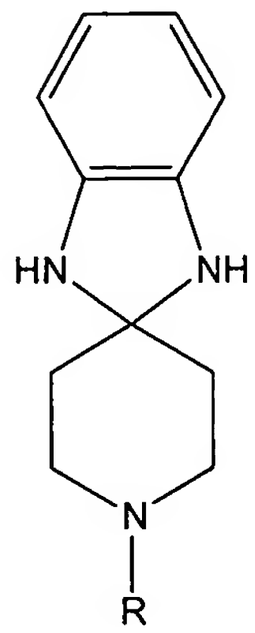
to reductive amination with 1,2-phenylenediamine, an acid and a reducing agent to form a compound of formula (IV).

Claim 3. (Original): The process of claim 1, wherein the compound of formula (IV) is formed by subjecting a compound of formula (III):



(III)

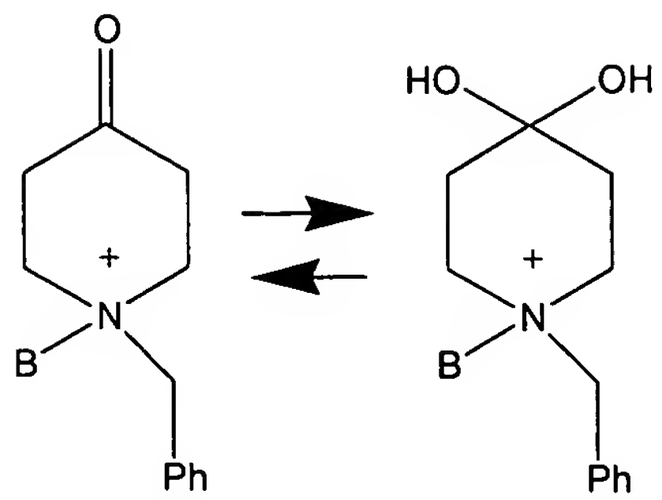
to amination with 1,2-phenylenediamine and an acid to form a compound of formula (IIIA):



(IIIA)

and reducing the compound of (IIIA) with a reducing agent to form a compound of formula (IV).

Claim 4. (Currently Amended): The process of claim 2 ~~or 3~~, wherein the compound of formula (III) is formed by reacting a compound of formula (II):

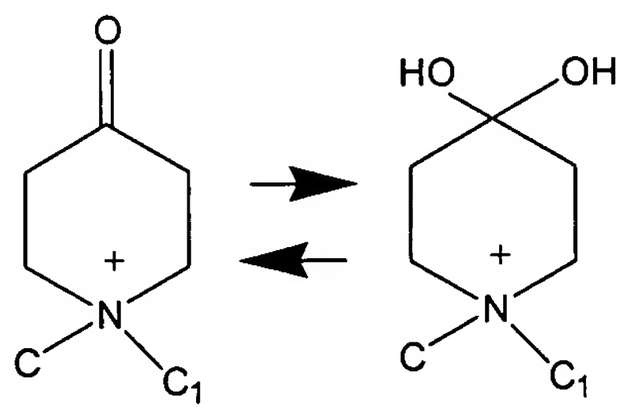


(II)

with R-amine to form a compound of formula (III);

wherein B is selected from the group consisting of methyl, ethyl and propyl.

Claim 5. (Currently Amended): The process of claim 2 ~~or 3~~, wherein the compound of formula (III) is formed by reacting a compound of formula (IIA):

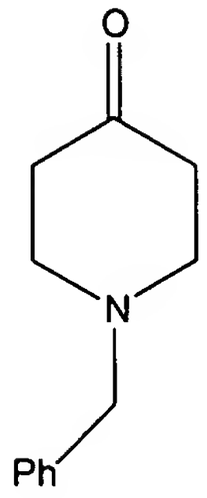


(IIA)

with R-amine to form a compound of formula III;

wherein C and C_1 are independently selected from the group consisting of methyl, ethyl and propyl.

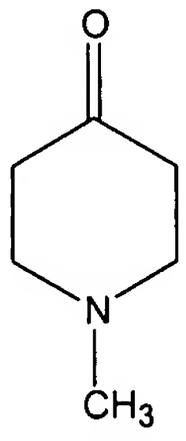
Claim 6. (Original): The process of claim 4, wherein the compound of formula (II) is formed by reacting a compound of formula (I):



(I)

with an C_{1-3}alkyl-halogen to form a compound of formula (II).

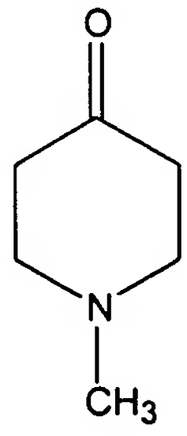
Claim 7. (Original): The process of claim 4, wherein the compound of formula (II) is formed by reacting a compound of formula (IA):



(IA)

with a benzyl-halogen to form a compound of formula II.

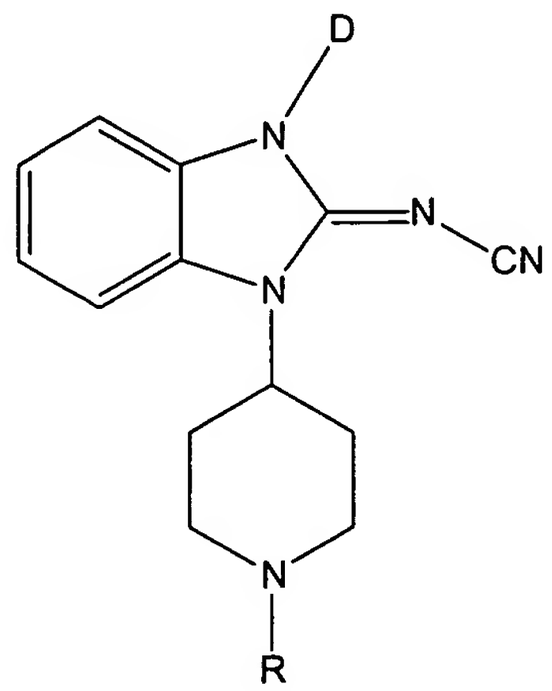
Claim 8. (Original): The process of claim 4, wherein the compound of formula (IIA) is formed by reacting a compound of formula (IA):



(IA)

with (C)(C_1)sulphate to form a compound of formula (IIA).

Claim 9. (Original): The process of claim 1, further comprising reacting a compound of formula (V) with a D-halogen to form a compound of formula (VI):



(VI)

wherein D is selected from the group consisting of $C_{1\text{-}10}$ alkyl, $C_{3\text{-}12}$ cycloalkyl, $C_{3\text{-}12}$ cycloalkyl$C_{1\text{-}4}$alkyl-, $C_{1\text{-}10}$ alkoxy, $C_{3\text{-}12}$ cycloalkoxy-, $C_{1\text{-}10}$ alkyl substituted with 1-3 halogen, $C_{3\text{-}12}$ cycloalkyl substituted with 1-3 halogen, $C_{3\text{-}12}$ cycloalkyl$C_{1\text{-}4}$alkyl- substituted with 1-3 halogen, $C_{1\text{-}10}$ alkoxy substituted with 1-3 halogen, $C_{3\text{-}12}$ cycloalkoxy- substituted with 1-3 halogen, $-COOV_1$, $-C_{1\text{-}4}COOV_1$, $-CH_2OH$, $-SO_2N(V_1)_2$, hydroxy$C_{1\text{-}10}$alkyl-, hydroxy$C_{3\text{-}10}$cycloalkyl-, cyano$C_{1\text{-}10}$alkyl-, cyano$C_{3\text{-}10}$cycloalkyl-, $-CON(V_1)_2$, $NH_2SO_2C_{1\text{-}4}$alkyl-, $NH_2SOC_{1\text{-}4}$alkyl-, sulfonylamino$C_{1\text{-}10}$alkyl-, diaminoalkyl-, -sulfonyl$C_{1\text{-}4}$alkyl, a 6-membered heterocyclic ring, a 6-membered heteroaromatic ring, a 6-membered heterocyclic$C_{1\text{-}4}$alkyl-, a 6-membered heteroaromatic$C_{1\text{-}4}$alkyl-, a 6-membered aromatic ring, a 6-membered aromatic$C_{1\text{-}4}$ alkyl-, a 5-membered heterocyclic ring optionally substituted with an oxo or thio, a 5-membered heteroaromatic ring, a 5-membered heterocyclic$C_{1\text{-}4}$alkyl- optionally substituted with an oxo or thio, a 5-membered heteroaromatic$C_{1\text{-}4}$alkyl-, $-C_{1\text{-}5}(=O)W_1$, $-C_{1\text{-}5}(=NH)W_1$, $-C_{1\text{-}5}NHC(=O)W_1$, $-C_{1\text{-}5}NHS(=O)_2W_1$, $-C_{1\text{-}5}NHS(=O)W_1$, and a 5-membered heteroaromatic ring optionally substituted with 1-3 lower alkyl

wherein V_1 is independently selected from H, C_{1-6} alkyl, C_{3-6} cycloalkyl, benzyl and phenyl; and

wherein W_1 is hydrogen, C_{1-10} alkyl, C_{3-12} cycloalkyl, C_{1-10} alkoxy, C_{3-12} cycloalkoxy, $-CH_2OH$, amino, C_{1-4}alkylamino-, or diC_{1-4}alkylamino-; and

wherein each V_1 and W_1 is the same or different.

Claim 10. (Original): The process of claim 1, wherein R_1 is selected from the group consisting of C_{1-10}alkyl and C_{3-12}cycloalkyl.

Claim 11. (Original): The process of claim 1, wherein R is cyclooctyl.

Claim 12. (Original): The process of claim 1, wherein A and A_1 are both phenyl.

Claim 13. (Original): The process of claim 1, wherein the reaction is performed in a solvent.

Claim 14. (Original): The process of claim 13, wherein the solvent is selected from acetonitrile, dimethylformamide, or a mixture thereof.

Claim 15. (Original): The process of claim 1, wherein the reaction is performed at a temperature of about 50° C to about 125° C or about 75° C to about 125 ° C or about 100 ° C.

Claim 16. (Original): The process of claim 15, wherein a portion of the reaction is performed under ambient temperature.

Claim 17. (Original): The process of claim 1, comprising isolating an intermediate cyanoimidate.

Claim 18. (Original): The process of claim 17, comprising preparing the compound of formula (V) in a one pot reaction in acetonitrile, dimethylformamide, or a mixture thereof.

Claim 19. (Original): The process of claim 2, wherein the reductive amination is performed in a suitable solvent.

Claim 20. (Original): The process of claim 19, wherein the solvent is dichloroethane, tetrahydrofuran or a mixture thereof.

Claims 21-76. (Canceled)